Idaho Observational Seat Belt Survey

2005

Final Report

Prepared by the Office of Traffic & Highway Safety

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Background

The methodology concerning the observational seat belt survey was changed in 1998 in accordance with The National Highway Traffic Safety Administration's (NHTSA) guidelines. An entirely new sample of observation sites was selected using a two-stage probabilistic sampling method. The method of analysis also changed to correct for the probabilistic sampling and determine the standard error correctly. Comparisons of 1998 and future surveys to historical data (1986 – 1997 surveys) should be made with caution as the new methodology differs greatly from the previous methodology.

It is physically impossible to observe every front seat occupant of every vehicle on every roadway for every day of the year. For this reason, a sample of sites was taken that covers the state geographically and captures the different types of traffic patterns, by adequately selecting the different types of roadways. The sample was selected randomly; however, counties with higher Annual Vehicle Miles of Travel (AVMT) and roadways with greater Average Daily Traffic (ADT) were more likely to be picked. While this helps to insure a cost-effective sample, it also introduces bias that must be accounted for and corrected in the analysis. Site-specific weights are calculated for a number of aspects and special software is used in the estimation process. The following table shows the 2005 estimated statewide usage, the standard error and the 95% confidence interval for the statewide estimate.

The estimated usage is the percentage of people observed wearing seat belts. The standard error is the average difference between the observed usage at each site and the estimated usage. The standard error is also an indication of how precise the sample is. The lower and upper 95% confidence limits define the 95% confidence interval. The 95% confidence interval is derived from the estimated usage and the standard error. The appropriate interpretation of the confidence interval is that if we were to do 100 surveys, we would expect 95 out of the resulting 100 confidence intervals to contain the "true" usage. The "true" usage is what we would get if we could observe every front seat occupant of every vehicle on every road for every day of the year. In other words, we are 95% confident the "true" statewide usage in 2005 lies between the 70.0% and 82.0%.

2005 Statewide Seat Belt Usage

Estimated Statewide Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
76.0%	3.1%	70.0%	82.0%

2005 Statewide Seat Belt Usage by Vehicle Type

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Passenger Cars	79.9%	2.9%	74.1%	85.6%
Vans & SUV's	82.4%	2.9%	76.7%	88.1%
Pick-Up Trucks	62.9%	3.1%	56.9%	68.9%

The estimated seat belt usage for pick-up truck occupants continues to be substantially lower than seat belt usage for either passenger cars or vans and sport utility vehicles (SUV's). The difference between seat belt use in pick-up trucks and in other vehicles is statistically significant.

2005 Seat Belt Usage by Transportation District

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
District 1	75.7%	1.6%	72.5%	78.9%
District 2	81.1%	1.4%	78.4%	83.9%
District 3	85.4%	3.8%	77.9%	92.9%
District 4	71.5%	1.8%	68.0%	74.9%
District 5	55.4%	3.3%	48.9%	61.9%
District 6	68.0%	2.5%	63.0%	72.9%

2005 Seat Belt Usage by County

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Ada	89.9%	4.3%	81.4%	98.4%
Bannock	58.7%	1.2%	56.3%	61.0%
Bingham	48.7%	5.2%	38.5%	58.9%
Blaine	66.9%	0.8%	65.3%	68.5%
Bonner	73.0%	0.9%	71.2%	74.8%
Bonneville	70.7%	2.7%	65.4%	75.9%
Canyon	79.2%	0.1%	79.0%	79.4%
Cassia	66.9%	3.4%	60.3%	73.6%
Elmore	68.3%	5.1%	58.3%	78.2%
Kootenai	78.5%	1.7%	75.1%	81.9%
Latah	78.6%	1.7%	75.4%	81.9%
Madison	62.2%	3.8%	54.7%	69.7%
Minidoka	75.3%	0.9%	73.5%	77.0%
Nez Perce	82.5%	1.6%	79.5%	85.6%
Payette	75.4%	4.2%	67.0%	83.7%
Twin Falls	74.5%	2.5%	69.5%	79.4%

Not all counties in Idaho are included in the sample.

2005 Seat Belt Usage by Types of Road

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Urban	77.1%	4.1%	69.0%	85.3%
Rural	73.5%	1.9%	69.8%	77.3%

Urban and rural designations are determined from the functional classification of the road.

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Major	79.8%	6.1%	67.9%	91.7%
Minor	73.5%	2.5%	68.6%	78.4%

Major and minor designations are determined from the functional classification of the road. Major roads are Interstates and Principal Arterials, minor roads comprise all other functional classifications.

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Urban Major	79.9%	7.5%	65.3%	94.6%
Urban Minor	74.7%	3.5%	67.8%	81.6%
Rural Major	79.4%	2.1%	75.2%	83.5%
Rural Minor	71.6%	2.4%	66.9%	76.3%

2005 Seat Belt Usage by Functional Classification

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Rural				
Interstate	82.2%	4.8%	72.7%	91.6%
Principal Arterial	79.0%	2.2%	74.8%	83.3%
Minor Arterial	66.3%	4.8%	56.9%	75.6%
Major Collector	72.8%	1.8%	69.2%	76.3%
Minor Collector	61.2%	0.0%	61.2%	61.2%
Local	76.5%	4.5%	67.8%	85.3%
Urban				
Interstate	96.6%	1.7%	93.4%	99.9%
Principal Arterial	71.7%	4.2%	63.5%	79.8%
Minor Arterial	74.2%	3.1%	68.1%	80.3%
Collector	73.1%	6.0%	61.3%	84.8%
Local	82.3%	0.0%	82.3%	82.3%

2005 Seat Belt Usage by Day of the Week

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Sunday	58.6%	1.4%	55.9%	61.3%
Monday	73.0%	3.7%	65.8%	80.3%
Tuesday	72.0%	4.0%	64.2%	79.8%
Wednesday	71.9%	2.8%	66.5%	77.4%
Thursday	82.9%	7.7%	67.8%	98.0%
Friday	78.0%	2.0%	74.0%	82.0%
Saturday	84.8%	3.9%	77.1%	92.5%

2005 Usage by Time of Day

	Estimated Usage	Standard Error	Lower 95% Confidence Limit	Upper 95% Confidence Limit
Morning (8 - 11)	79.4%	4.1%	71.5%	87.4%
Afternoon (11 - 3)	71.6%	2.7%	66.3%	77.0%
Evening (3 - 7)	73.9%	6.2%	61.7%	86.0%

2005 Observed Usage – Vehicle Type by Transportation District

ITD District	Passenger Cars	Vans and Sport Utility Vehicles	Pickup Trucks	All Vehicles
1	76.1%	84.6%	63.6%	75.7%
2	84.6%	84.7%	71.3%	81.1%
3	89.3%	90.0%	73.2%	85.4%
4	77.8%	74.3%	59.3%	71.5%
5	59.4%	64.5%	40.3%	55.4%
6	74.6%	72.1%	53.3%	68.0%
Statewide	**79.9%**	**82.4%**	**62.9%**	**76.0%**

2005 Observed Usage – Vehicle Type by County

County	Passenger Cars	Vans and Sport Utility Vehicles	Pickup Trucks	All Vehicles
Ada	92.5%	93.8%	79.1%	89.9%
Bannock	64.2%	62.7%	44.5%	58.7%
Bingham	49.7%	68.6%	32.1%	48.7%
Blaine	73.1%	71.3%	53.5%	66.9%
Bonner	72.8%	86.1%	59.1%	73.0%
Bonneville	79.0%	73.5%	56.7%	70.7%
Canyon	85.8%	83.1%	66.5%	79.2%
Cassia	71.1%	69.7%	58.7%	66.9%
Elmore	74.1%	75.0%	56.7%	68.3%
Kootenai	78.4%	82.9%	71.5%	78.5%
Latah	81.3%	82.5%	68.9%	78.6%
Madison	66.5%	69.5%	42.8%	62.2%
Minidoka	83.7%	85.1%	55.9%	75.3%
Nez Perce	86.2%	86.4%	72.5%	82.5%
Payette	77.4%	79.0%	69.7%	75.4%
Twin Falls	79.3%	73.0%	66.7%	74.5%

2005 Usage by Observation Site

County	Location	Designated Road	Intersection	Usage
Bonner	1	Cedar (US 95)	at N. 2nd	74.3%
	2	Albeni Rd (US 2)	at SH 57	73.0%
	3	Dufort Rd	at US 95	72.2%
	4	US 95	at Larch	83.4%
	5	Cedar	at Boyer	71.4%
	6	US 2	at Division	87.1%
Kootenai	7	I-90 - Off Ramp	Exit # 7 (SH 41)	82.4%
	8	Mullan Rd	at SH 41	79.9%
	9	SH 41	at SH 53	80.5%
	10	SH 53	at US 95	79.2%
	11	15th Street	at Sherman Ave	71.4%
	12	I-90 - Off Ramp	Exit #14	81.3%
	13	US 95	At SH 53	82.2%
	14	Lincoln Way (US 95)	at Appleway	88.7%
Latah	93	SH 8	at Blaine	83.5%
	94	6th St	at Blaine	80.0%
	95	Jackson St	at 6th St	76.0%
	96	US 95	at Sweet Ave	78.0%
Nez Perce	97	US 12	at 3rd Ave N.	83.5%
	98	Main	at 13th St	89.0%
	99	16th Ave	at 17th St.	83.0%
	100	Powers Ave	at Thain Rd	80.0%
Ada	15	Overland	at Meridian Rd.	81.1%
	16	SH 55	at Floating Feather	91.4%
	17	Collister Dr	at Catalpa Dr	78.2%
	18	Mcmillan Rd	at Locust Grove	86.5%
	19	Franklin Rd	at Ten Mile	87.1%
	20	I-184 - Off Ramp	Curtis Road Exit	98.1%
	21	Chinden Blvd	at 36th St.	92.5%
	22	Cole Road	at Emerald	94.6%
	23	9th Street	at River St	89.5%
	24	Hayes St	at 13th St	91.0%
	25	N. Liberty	at Fairview	81.3%

2005 Usage by Observation Site - Continued

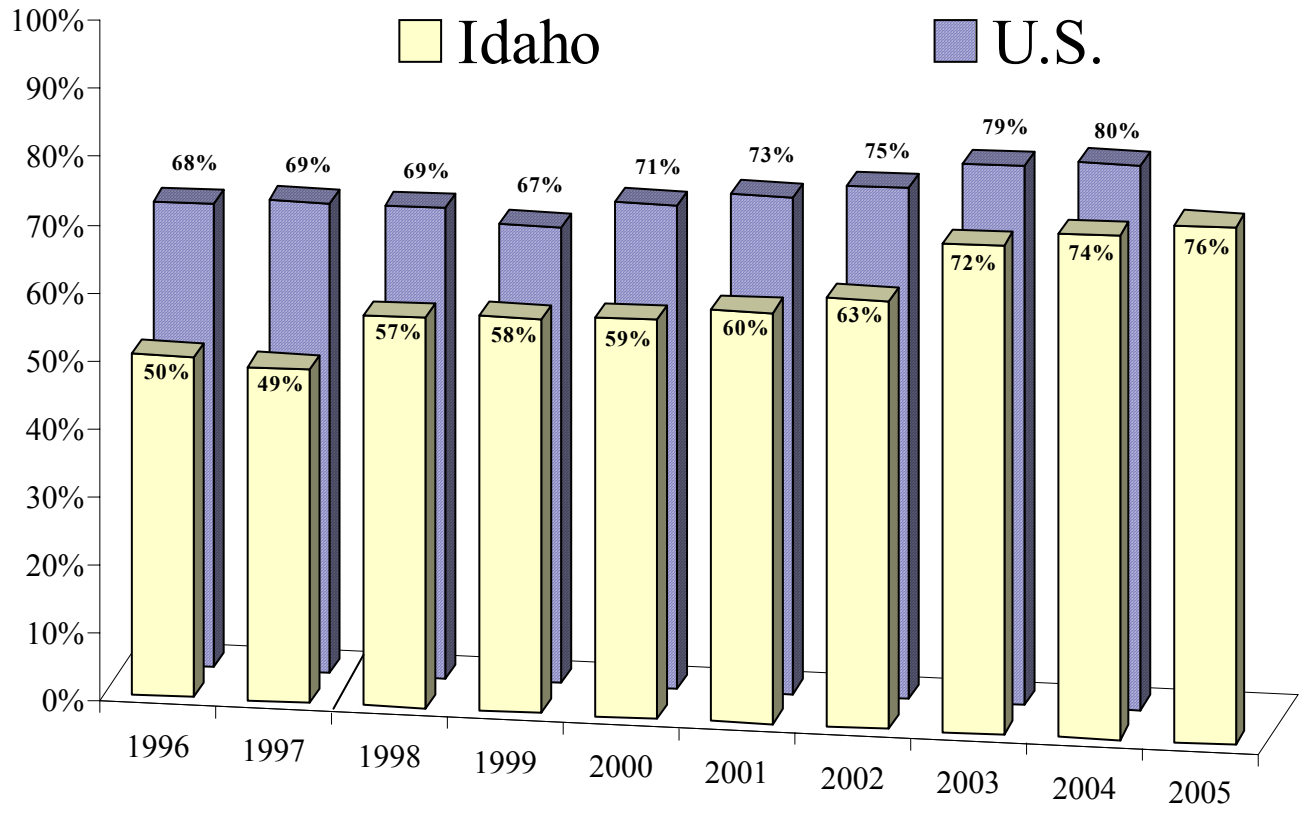
County	Location	Designated Road	Intersection	Usage
	26	Gekeler Rd	at W Boise Ave	88.8%
	27	Eagle Road	at Chinden Blvd	89.3%
	28	Jupiter (Entertainment)	at Overland	90.8%
	29	Adams Rd.	at E 44th St	77.7%
	30	SH 16	Jct w/ SH 44	88.0%
Canyon	31	Linden	at Indiana	75.5%
	32	US 20	at Middleton Rd	82.5%
	33	SH 55	at South 10th Ave	78.0%
	34	Centennial Way	at SH 19	76.5%
	35	I-84 - Off Ramp	Exit # 38-Garrity	87.0%
	36	Amity Rd	at South Side Blvd	80.5%
	37	Greenhurst	at 12th Ave	83.0%
	38	7th Ave	at 3rd St	77.5%
Elmore	39	I-84 Business Loop	at SH 51	62.6%
	40	I-84 - Off Ramp	Exit # 95	88.7%
	41	SH 51	at SH 67	71.8%
	42	American Legion	at 3rd East	68.3%
	43	3rd E St	at 10th N St	67.5%
	44	McMurtrey	at Canyon Creek	57.9%
Payette	45	US 95 (16th St)	at 8th St	80.0%
	46	8th Street	at Center St	65.5%
	47	US 95	at NW 16th St	87.0%
	48	SH 72	at US 30	67.9%
Blaine	67	Gannett Rd	at US 20	73.2%
	68	US 20	at Jct US 93/26	66.2%
	69	US 20	at SH 75	100.0%
	70	Saddle Rd	at Sun Valley Rd	52.3%
	71	Main St (SH 75)	at 1st St	67.1%
	72	Main St (SH 75)	at Bullion St	74.0%
Cassia	49	E. 5th St	at Overland	76.2%
	50	W Main	at Oakly	63.8%
	51	SH 77	at SH 81	56.3%
	52	I-84 - Off Ramp	Exit # 216	77.6%

2005 Usage by Observation Site – Continued

County	Location	Designated Road	Intersection	Usage
	53	200 S.	at SH 27	61.2%
	54	Overland Ave	at 14th St	72.1%
Minidoka	55	I-84 - Off Ramp	Exit #211 Rupert/Heyburn Exit	90.7%
	56	I-84 - Off Ramp	Exit # 201 Paul Exit	60.0%
	57	Overland Rd	at 5th St	78.9%
	58	O St	at 21st St	76.5%
	59	SH 24 (8th St)	at Meridian	69.7%
	60	SH 25	at SH 27	70.7%
Twin Falls	61	3700 N	at US 93	80.5%
	62	Blue Lakes Blvd	at Falls Ave	82.0%
	63	3rd St E	at 6th Ave N	71.4%
	64	Washington St	at South Park	70.9%
	65	Kimberly Rd (US 30)	at Eastland	73.6%
	66	Eastland Dr	at Orchard	69.3%
Bannock	73	Garrett Way (US 30)	at E Gould St	56.5%
	74	West Quinn Rd	at Poleline Rd	58.9%
	75	I-15 - Off Ramp	Exit # 47 (US 30)	73.4%
	76	S Main	at Benton Rd	61.2%
Bingham	77	Fir St	at US 91	52.7%
	78	US 91	at Fir St	61.9%
	79	W Judicial St	at Broadway	41.9%
	80	I-15 - Off Ramp	Exit # 89	71.7%
Bonneville	81	SH 43 (Ucon Exit US 20)	at SH 43/Yellowstone	71.0%
	82	Sunnyside Dr	at Woodruff Ave	55.5%
	83	Lincoln Rd	at Woodruff Ave	61.8%
	84	US 26	at 15th E (St Leon Rd)	63.2%
	85	Grandview Dr	at Skyline Dr	72.4%
	86	US 20	Riverside - Exit #93	76.2%
	87	N Holmes Ave	at 5th St	77.0%
	88	I-15BL (Exit #113)	at Jct US 91	76.4%
Madison	89	S 2nd E	at E 1st S	72.1%
	90	S 2nd W	at W 2nd S	55.7%
	91	US 20	at SH 33 (Rexburg Exit)	55.6%
	92	E Main St	at Center St	59.1%

Seat Belt Usage Trends

Idaho Seat Belt Usage vs. U.S. Seat Belt Usage



Slight changes in the observational seat belt survey existed from year to year prior to 1998. In 1998 the observational survey was completely revised to ensure national compliance and to produce a more accurate usage estimate. Comparisons of 1998 and future surveys to historical surveys (1986 – 1997) should be made conservatively as the new methodology differs greatly from the previous methodologies. The U.S. observed usage is calculated from the observed usage rates in each state. This figure is obtained from the National Center for Statistics and Analysis.

From 2004 to 2005 the Idaho observed seat belt usage increased from 74.0% to 76.0%. This represents a 2.7% increase in seat belt usage from 2004 to 2005. Idaho's seat belt law was strengthened July 1, 2003.

Observed Usage - Transportation District by Year

	2001	2002	2003	2004	2005	Ave Yearly Change 2001-2005
District 1	57.7%	70.6%	76.5%	76.2%	75.7%	7.4%
District 2	56.6%	68.4%	74.3%	75.4%	81.1%	9.6%
District 3	64.6%	63.3%	78.8%	82.4%	85.4%	7.7%
District 4	51.0%	53.6%	59.3%	59.6%	71.5%	9.1%
District 5	54.4%	55.4%	53.5%	57.1%	55.4%	0.6%
District 6	56.4%	57.8%	59.2%	66.3%	68.0%	4.9%

Observed Usage – County by Year

	2001	2002	2003	2004	2005	Ave Yearly Change 2001-2005
Ada	66.8%	64.3%	81.0%	85.3%	89.9%	8.2%
Bannock	56.0%	58.5%	55.7%	61.2%	58.7%	1.4%
Bingham	51.8%	45.2%	47.4%	45.2%	48.7%	-1.2%
Blaine	52.3%	60.0%	68.7%	68.6%	66.9%	6.7%
Bonner	54.4%	70.9%	74.4%	75.3%	73.0%	8.4%
Bonneville	63.4%	62.5%	59.4%	72.4%	70.7%	3.3%
Canyon	58.3%	63.2%	75.1%	77.9%	79.2%	8.2%
Cassia	49.1%	49.6%	53.9%	41.8%	66.9%	11.8%
Elmore	57.7%	52.9%	67.9%	70.2%	68.3%	5.2%
Kootenai	59.5%	70.2%	78.6%	76.8%	78.5%	7.5%
Latah	57.6%	74.0%	74.2%	71.9%	78.6%	8.7%
Madison	49.7%	52.4%	58.8%	58.0%	62.2%	5.9%
Minidoka	48.1%	48.5%	55.6%	54.2%	75.3%	13.0%
Nez Perce	56.2%	65.4%	74.4%	77.6%	82.5%	10.2%
Payette	63.3%	61.2%	71.9%	76.1%	75.4%	4.7%
Twin Falls	54.4%	58.9%	63.0%	73.2%	74.5%	8.3%

Observed Usage – Vehicle Type by Year

	2001	2002	2003	2004	2005	Ave Yearly Change 2001-2005
Passenger Cars	66.7%	66.4%	77.0%	78.5%	79.9%	6.4%
SUV's/Vans	62.2%	70.0%	76.2%	79.1%	82.4%	9.8%
Pickup Trucks	48.8%	50.9%	58.4%	61.9%	62.9%	8.9%
Overall Usage	**60.4%**	**62.9%**	**71.7%**	**74.0%**	**76.0%**	8.0%